19.0 DIETSYS SCORES FOR NON-DIETARY FACTORS (HEALTH INDICES)

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SECTION 19.0

19.1   **Introduction to the DIETSYS Scores for Non-Dietary Factors.**

The DIETSYS utility called "Scores for Non-Dietary Factors" can calculate up to four different health-related indices using the Questionnaire Data File as input. This utility replaces the Health Indices Analysis program (DIETINDX) included with previous versions of the software.

Sections 19.6 through 19.9 contain the algorithms used for the calculations. For each questionnaire read by the program, a line containing the questionnaire participant's Respondent ID, the calculated indices, and a flag for each index indicating any problems with the input data is written to the Index Output File. The codebook for this output file is in Section 19.10. You may then use a statistical software package of your choice to analyze the results stored in this file. DIETSYS does not generate a report of these analyses.

19.2   **Running the Scores for Non-Dietary Factors Utility.**

STEP 1:   Select **Setup/Utilities** from the DIETSYS main menu.

STEP 2:   Select **Scores for Non-Dietary Factors** from the utilities sub-menu.

STEP 3:   Choose the indices to be calculated. See Section 19.3 for further instructions for this screen.

STEP 4:   Enter the names of the files required by the DIETSYS Scores for Non-Dietary Factors utility by following the instructions in Section 19.4.

STEP 5:   If the Health Practices Index was selected in Step 3, verify the list of alcoholic beverages to be used for the calculation of this index. See Section 19.5.

19.3   **Selecting the Indices to be Calculated.** You may direct DIETSYS to calculate any subset of the health indices using the screen below. When you exit this screen, the indices marked with an asterisk will be calculated. You may toggle the marking asterisk on and off by pressing the ENTER key when the index is highlighted. See Sections 19.6 through 19.9 for details regarding the calculation of each index and the questionnaire data items required for each index.

```
 ┌──────────────────────────────────────────────────────────────────────────┐
 │            ┌─────────────────────────────────────────────┐                │
 │            │           Health Indices Utility            │                │
 │            └─────────────────────────────────────────────┘                │
 │                                                                            │
 │ Mark indices to be calculated                                              │
 │ )))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))   │
 │ *Pack Years                                                                │
 │  Social Network Index                                                      │
 │ *Physical Activity Index                                                   │
 │  Health Practices Index                                                    │
 │                                                                            │
 └──────────────────────────────────────────────────────────────────────────┘
```

19.4 **Files Required.** DIETSYS uses the screen shown below to prompt for the files required to calculate the health indices in this utility. Follow Steps 1 through 3 in Section 19.2 to access this screen.

```
                        Health Indices Utility
─────────────────────────────────────────────────────────────────
 Questionnaire Data File:
   C:\HHHQ\DEMO.DAT

 Questionnaire Configuration File (*.CFG):
   C:\HHHQ\BRIEF87.CFG

 DIETSYS Indices Output File (*.IDX):
   C:\HHHQ\DEMO.IDX

 Portion Size Data File:
   C:\HHHQ\DIETPORT.V30
```

On this and other DIETSYS file screens, default filenames will be available for some prompts. Other prompts will only contain a default path (a path is the drive and directory; "C:\HHHQ\" is a path). The path shown will be the current working directory unless other paths have been designated in the System Defaults utility (Section 20).

You must enter filenames for those prompts which only contain a path. If necessary, you may enter new paths and/or filenames for all prompts. If a path is not specified, the path of the current working directory will be used. To make changes, simply type over the names shown. The LEFT/RIGHT arrow keys and the END key can be used to pass over text which you do not wish to change. As with all file screens in DIETSYS, you may use the UP/DOWN arrows or the ENTER key to accept default filenames shown.

The name segment of a filename is on the left of the period, the extension is on the right. It is recommended that you use the same name for the DIETSYS Indices Output File as the Questionnaire Data File, but use a different extension. IDX is the recommended extension for DIETSYS Indices Output Files.

A. **Questionnaire Data File.** The coded responses from the questionnaire are stored in this file. This includes the food frequencies and other types of questionnaire data. The DIETSYS Scores for Non-Dietary Factors utility will calculate the health indices based on the responses stored in this file.

B. **Questionnaire Configuration File.** DIETSYS uses the information stored in the CFG File to determine the identity and sequence of all questions on your questionnaire (Section 11.1). Enter the name of the CFG File which corresponds to the Questionnaire Data File.

C. **DIETSYS Indices Output File.** This is an ASCII text file containing the health indices calculated by this utility. See Section 19.10 for a file description.

D. **Portion Size Data File.** This file is only required if the Health Practices Index was selected on the previous screen (Section 19.3). Food Names are stored in the Portion Size Data File (Section 12.5 and 12.23). DIETSYS will read the names of the alcoholic beverages which are required for the Health Practices Index (Sections 19.5 and 19.9).

19.5   DIETSYS uses the frequency of alcohol consumption in the calculation of the Health Practices Index. DIETSYS needs to be sure that the frequencies of the correct foods are being counted towards this value. DIETSYS will display the screen below to show you the list of foods which DIETSYS has identified as alcoholic beverages. If you are using additional alcoholic beverages on your questionnaire or have rearranged the foods in your database, you must correct this list. The food names have been read from the Portion Size Data File so they could be displayed for your verification.

```
 Alcohol consumption is used in the calculation of the Health Practices
 Index.  If you have added foods to your questionnaire which are
 alcoholic beverages, change this list to include those foods.

 Verify this list of foods used as alcohols:
 )))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
  88 BEER
  89 WINE
  90 LIQUOR
```

To change the list of alcoholic beverages, press ALTC. Then simply add or delete the appropriate Food IDs from the list. The Food IDs may be listed in any order. Abbreviate lists using ranges such as "88-90". Type a comma between each range or individual Food ID. Each Food ID corresponds to a food's database sequence number (Section 12.3).

19.6   **Pack Years & Years Smoked**

HHHQ questions used:
    Age
    Have you smoked at least 100 cigarettes in your entire life? . . . . .

    About how old were you when you first started smoking cigarettes fairly regularly?
    How old were you when you stopped smoking?
    On average of the **entire time you smoked**, how many cigarettes per day did you smoke?
    Do you smoke cigarettes now?

All of these HHHQ Questions are included on the FULL87 questionnaires as well as the Long and Short Interactive Interviews. See Section 6 for the codebook for these questionnaire data files. If you have designed your own questionnaire, see Sections 10A.38 for coding instructions for the smoking HHHQ Questions.

"Years Smoked" and "Pack Years" are calculated based on the responses to these HHHQ Questions as described below.

Questionnaire Responses	Years Smoked Calculation
The response is NO to "Have you smoked at least 100 cigarettes in your entire life?" If the response to this question is YES, Missing, or Error one of the equations below will be used.	0
The response is YES to "Do you smoke cigarettes now?". If this response is NO or Missing, or Age is Missing, the equation below is used.	Age minus Age Began Smoking
There is a valid aged coded for "How old were you when you stopped smoking?" (Age Stopped)	Age Stopped minus Age Began Smoking
If any of the values required for the above equations was missing	99

Questionnaire Responses	Pack Years Calculation
The response is zero to "On average of the **entire time you smoked**, how many cigarettes per day did you smoke?"	0
Average Cigarettes Smoked is > 0	Years Smoked x (Avg. Cigarettes/20)
Average Cigarettes is Missing or Error	999.9

19.7   **Social Network Index**

<u>HHHQ questions used:</u>
        Close friends/relatives
        Marital Status
        Social Activities

The Social Network HHHQ Questions are included on the FULL87 questionnaires as well as the Long and Short Interactive Interviews. See Section 6 for the codebook for these questionnaire data files. If you have designed your own questionnaire, see Section 10 for coding instructions for these HHHQ Questions.

<u>Step 1:</u> A "number of contacts" index is assigned according to the responses to close friends and close relatives. If either of these two questions is coded as Missing or Error, or contains an invalid code, the contact index is set to 0.

Contacts		
Close Friends	Close Relatives	Assigned Value
none	none	1
	1 or 2	1
	3 to 5	1
	6 to 9	2
	10 or more	3
1 to 2	none	1
	1 or 2	1
	3 to 5	2
	6 to 9	2
	10 or more	3
3 to 5	none	1
	1 or 2	2
	3 to 5	2
	6 to 9	3
	10 or more	4
6 to 9	none	2
	1 or 2	2
	3 to 5	3
	6 to 9	3
	10 or more	4
10 or more	none	3
	1 or 2	3
	3 to 5	4
	6 to 9	4
	10 or more	4

Step 2: A sociability index is calculated from the contact index (computed above) and the HHHQ monthly contacts and marital status questions.

Sociability		
Contacts	Monthly Contacts	Assigned Value
0 (missing)	[Any Value]	2
1	[Any Value]	1
2 or 3	[Any Value]	2
4	(missing/bad)	2
	none	2
	1 or 2	2
	3 to 5	2
	6 to 9	3
	10 or more	3

If the marital status is anything but married, the sociability index is decreased by one level, unless the index was already one.

Step 3: Church and group participation flags (YES/NO) are evaluated from the corresponding questionnaire questions. If church or group participation is more frequent than a few times a year, then the corresponding participation flag is set to YES (missing & bad data trigger flag to NO.)

Final Step: Compute Social Network Index from sociability index and church and group participation flags.

Social Network Index			
Sociability	Church Flag	Group Flag	Assigned Value
1	NO	NO	1
		YES	1
	YES	NO	1
		YES	2
2	NO	NO	2
		YES	3
	YES	NO	3
		YES	4
3	[Any Value]	[Any Value]	4

19.8   **Physical Activity Index**

<u>HHHQ questions used:</u>

Physical Activities:
Active sports
Physical exercise
Jogging or running
Swimming or long walks
Gardening fishing or hunting
Other activity.

These HHHQ Questions are included on the FULL87 questionnaires as well as the Long and Short Interactive Interviews. See Section 6 for the codebook for these questionnaire data files. If you have designed your own questionnaire, see Section 10 for coding instructions for these HHHQ Questions.

The physical activity index is calculated by adding together a coefficient for each activity listed above. The coefficient for each activity is a function of the reported frequency with which the activity is performed, and an exertion level (VIGOROUS or MILD) assigned to the activity.

The coefficients are assigned as follows:

Activity Coefficient		
Frequency	Exertion Level	Assigned Value
More than once a week	VIGOROUS	5
	MILD	3
About once a week	VIGOROUS	4
	MILD	2
A few times a month	VIGOROUS	3
	MILD	1
A few times a year	[Any Value]	1
Rarely or Never	[Any Value]	0
Missing/Bad Data	[Any Value]	0

All the activities are assigned a VIGOROUS exertion level except for gardening and other activity which are MILD.

19.9   **Health Practices Index**

HHHQ Questions used:

> Have you smoked at least 100 cigarettes in your entire life?
> Food frequencies of alcoholic beverages
> Height
> Weight
> Sex
> Hours of Sleep per Night

These HHHQ Questions are included on the FULL87 questionnaires as well as the Long and Short Interactive Interviews. See Section 6 for the codebook for these questionnaire data files. If you have designed your own questionnaire, see Section 10 for coding instructions for these HHHQ Questions.

Five flags representing different health hazards are calculated and added together to obtain the health practices index. Each flag is assigned either 0 or 1. A 1 indicates a certain hazard for the given health category. Thus, the higher the health practices index, the higher the health hazard. The five categories to which flags are assigned are: smoking, physical activity, alcohol consumption, weight status, and sleep hours.

Smoking: if the answer to smoked at least 100 cigarettes is YES, then the flag is set to 1. In all other cases it is set to 0.

Physical Activity: the physical activity index described in the previous section is calculated. If the index is strictly less than 4, then the flag is set to 1. In all other cases it is set to 0.

Weight Status: the quetelet is computed as weight (lbs) over height (inches) squared. If the quetelet is within the .0283 to .0407 range for men, and within the .0264 to .0379 range for women, then the flag is set to 0. If the sex is unknown, then only quetelets in the .0283 to .0379 range trigger the flag to 0. If the quetelet can not be computed, or falls outside of the given ranges, then the flag is set to 1.

Sleep Hours: if the number of hours of sleep reported is seven or eight, then the flag is set to 0. In all other cases it is set to 1.

Alcohol Consumption: weekly food frequencies for all foods designated as alcoholic beverages are totaled. If this weekly frequency is greater than 10.5, then the flag is set to 1. In all other cases, the flag is set to 0.

19.10 **DIETSYS Index Output File Codebook**

Each of the calculated indices is described in the documentation section listed. The flags associated with the indices are coded as follows:

0 = GOOD DATA. All the HHHQ Questions required to compute the index were error free and not coded as Missing.

1 = UNKNOWN DATA. One or more of the HHHQ Questions required for the index was coded as Missing or Error.

2 = BAD DATA. If any HHHQ Question required to compute the index contains an invalid code. Use the DIETSYS Edit Checking System to determine the offending data.

If an index was not selected as instructed in Section 15.3, the columns used for the index and index flag will be blank-filled. For example, if Pack Years was not selected, columns 12 through 22 will be blank for each respondent.

Columns	Contents
1-10	Respondent ID
11	Blank
12-16	Pack Years (Section 19.6)
17	Blank
18-19	Years Smoked (Section 19.6)
20	Blank
21	Pack Years Flag
22	Blank
23	Social Network Index (Section 19.7)
24	Blank
25	Social Network Index Flag
26	Blank
27-28	Physical Activity Index (Section 19.8)
29	Blank
30	Physical Activity Index Flag
31	Blank
32	Health Practices Index (Section 19.9)
33	Blank
34	Health Practices Index Flag